All About Vaccines and How They Get to Those Who Need Them Most
Elesha Kingshott
Shot@Life Four Priority Disease Areas

1. Polio
2. Measles
3. Diarrheal Disease
4. Pneumonia
• Polio is caused by a virus that infects the human digestive tract
• 3 types: wild poliovirus (WPV) 1, 2, and 3
• Most cases are asymptomatic; 1 in 200 results in paralysis. 5-10% of those paralysis cases result in death
Polio Vaccine

- There are two types of vaccines to protect against polio
  - Inactivated Polio Vaccine is given through an injection and protects against all three strains of wild polio virus
  - Oral Polio Vaccine is a weekend virus but not killed it contains all 3 strains
Update on Polio

• **1988**: 350,000 cases worldwide
• **2016**: 37 cases worldwide
• The disease remains endemic in just 3 countries: Afghanistan, and Nigeria, Pakistan
• This enormous progress is the result of global efforts to eradicate the disease, led by the **Global Polio Eradication Initiative (GPEI)**
• **We can finish the fight and end polio this year!**
Measles

• Measles is caused by a virus that infects the respiratory system, immune system, and skin
• Measles is an airborne disease
• In communities with low immunization rates, a person infected with measles can infect up to 18 other people
Measles Symptoms

- Measles symptoms include, high fever, cough, runny nose, conjunctivitis and rash.
- Measles can have severe complications like pneumonia, diarrhea, and blindness.
Measles has different outcomes depending on where you live

High-income Countries

• 1 in 4 people who get measles will be hospitalized.
• 1 out of 1,000 people with measles will develop encephalitis, which can lead to brain damage.
• 1 or 2 out of 1,000 people with measles will die, even with the best care.

Low-income Countries

• Children who are malnourished and/or are immunocompromised are prone to complications like pneumonia and diarrhea.
• Children who have vitamin A deficiencies are more likely to become blind from measles.
• In poor countries, the fatality rate is 2% to 15%, and can be up to 25% in the worst outbreaks.
Update on Measles

• Two doses are about 97% effective.
• Since 2000, 20 million lives have been saved because of measles vaccines.
• Measles vaccines are the single greatest contribution to reducing child deaths since 2000.
Rotavirus

- Virus that infects the small intestine and causes diarrhea
- Nearly every child in the world will suffer a rotavirus infection by their third birthday.
- Worldwide 37% of hospitalizations for diarrhea in children under five are due to rotavirus.
- Rotavirus kills 450,000 children under 5 every year
Rotavirus

• Cannot be treated with antibiotics
• Treatment involves oral rehydration therapy through oral rehydration solution (ORS) and zinc treatment
• In low-income countries in Africa and Asia access to treatment for severe rotavirus-related diarrhea is limited or unavailable
Rotavirus Vaccine

• In 2006 and 2008, two oral rotavirus vaccines entered the market
• By the end of 2015, more than 36 million children in low-income countries had been immunized with rotavirus vaccine
Pneumococcal Disease

• Children are most affected
• Leading cause of childhood pneumonia
• It is the leading vaccine-preventable cause of death in children under five years of age
• Most common in developing countries, where 90% of kids are infected by age 5 and the first infection happens at 1-2 months of age
• Most pneumococcal disease is caused by just 7 strains
Pneumococcal Disease

- Children are most affected
- Leading cause of childhood pneumonia
- It is the leading vaccine-preventable cause of death in children under five years of age.
- Most common in developing countries, where 90% of kids are infected by age 5 and the first infection happens at 1-2 months of age
- Most pneumococcal disease is caused by just 7 strains
Update on Pneumococcal Vaccines

- Leading cause of death of children under 5 in the developing world
- Pneumococcal vaccines are made accessible to those who need them most through innovative financing mechanisms designed and implemented by Gavi
Update on Pneumococcal Vaccines: Vaccine Introductions

- Rollouts began in 2009
- Since then, pneumococcal vaccines have been introduced in 50 countries worldwide
- Gavi and its partners have immunized more than 70 million children with pneumococcal vaccines
Shot@Life’s Partners

• World Health Organization

• UNICEF

• Gavi, the Vaccine Alliance
World Health Organization

• WHO’s primary role is to direct and coordinate international health within the United Nations’ system

• In low-income countries, WHO serves a vital role in ensuring UN programs are coordinated with the ministry of health
Areas of work on Immunization:
- WHO policy recommendations
- Overseeing global vaccination goals
- Strengthening national programs and systems
- Monitoring and surveillance
- Quality, safety and standards
- Research and development
UNICEF Vaccine Procurement

- UNICEF is the world’s largest buyer of childhood vaccines, reaching over 40% of the world’s children.

- In 2014, UNICEF procured 2.71 billion vaccine doses for children in 100 countries.
UNICEF’s Work Beyond Procurement

- UNICEF invests and manages the cold chain to make sure vaccines are kept at the right temperature.
- They lead the demand generation for vaccination in most countries to educate families about the need to get immunized.
Gavi, the Vaccine Alliance

• Gavi raises and distributes funds for childhood immunization in the world’s poorest countries
• Gavi works with the 54 world’s poorest countries to ensure access to 11 vaccines
• Countries have to have a per capita Gross National Income below or equal to US$ 1,580 on average over the past three years
Gavi, the Vaccine Alliance

• Gavi’s model focuses on pooling funds from donors for immunization, and pooling demand to negotiate for lower vaccine prices on behalf of Gavi-eligible countries

• Countries have to co-finance a portion of each vaccine to help ensure sustainability and country ownership
How it All Comes Together: UNICEF Example

A Champion donates $ to UNICEF

UNF grants to UNICEF

UNICEF Supply Division buys the vaccine

UNICEF ships the vaccine to the country

The vaccine is delivered to the health system through the cold chain

A child is taken to get vaccinated

UNICEF works with families on the ground to generate demand for vaccination

WHO works with MOH to ensure quality and safety standards are met